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EQUIPMENT

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WORKSHOP INSTRUCTIONS

DISTRIBUTOR

MODEL 20D8

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DISTRIBUTOR

MODEL 20D8

1. GENERAL

This distributor is designed for use with eight-cylinder engines, and is of the double lever type; one contact breaker serving to make, and the other to break, the low tension circuit. An eight-lobe cam is fitted.

Mounted on the distributor driving shaft beneath the contact breakers, is a centrifugally operated timing control mechanism. This consists of a pair of spring-loaded governor weights, linked by lever action to the contact breaker cam. At low engine speeds the springs maintain the cam in a position in which the spark is slightly retarded. Under the centrifugal force imparted by higher engine speeds the governor weights swing out against the spring pressure, advancing the cam (and thereby the spark) to suit ignition timing requirements at these higher speeds.

A further automatic timing control is provided by a built-in vacuum operated device, whereby engine loading, as reflected in variations in manifold depression, is utilised to cause the contact breaker base plate assembly to move about the cam and thus to vary the timing.

A slotted adjuster mounted adjacent to the vacuum diaphragm enables the upper portion of the distributor body (which carries the contact breaker assembly and vacuum control unit) to move relatively to the lower part of the distributor body (which houses the centrifugal timing advance mechanism) thus affording manual fine adjustment of the basic distributor setting.

2. ROUTINE MAINTENANCE

(a) AFTER THE FIRST 500 MILES

Checking Contact Breaker Setting

The contact breaker gaps should measure 0.014″–0.016″ when fully opened. Due to the initial bedding-in of a new contact set, the gap may need resetting. Gap settings should therefore be checked after the first 500 miles. Access to the contact breakers is gained by springing back the two side clips and lifting off the moulded cover. To check the setting, turn the engine slowly until a point of maximum opening is reached on one of the contact breakers and insert a feeler gauge between these contacts. If adjustment is necessary, slacken the screw securing the fixed contact plate. Reposition the plate by means of the screwdriver adjusting slot until a 0.014″–0.016″ gauge can be inserted as a sliding fit between the contacts, then retighten the screw. Recheck the gap to ensure that no movement has taken place whilst tightening the screw. Repeat this procedure with the second contact set, making certain that the engine is first turned until these contacts are at the position of maximum opening.

(b) EVERY 6,000 MILES

(i) Cleaning

Clean the moulded cover inside and outside with a soft dry cloth, paying particular attention to the spaces between the terminals. Check that the small carbon brush inside the moulding can move freely in its holder.

Withdraw the rotor arm and inject a few drops of thin machine oil into the rotor arm spindle. Do not remove or slacken the screw located inside the spindle —a space is provided beneath the screwhead to allow the lubricant to reach the cam bearing.

Lightly smear the faces of the cam with Mobilgrease No. 2 or with clean engine oil.

Lubricate the centrifugal timing control, injecting a few drops of thin machine oil through a convenient aperture in the contact breaker base plate.

Important

Do not allow oil or grease on or near the contacts when lubricating the distributor.

(ii) Inspection of Contact Breakers

Rough, burned or blackened contacts can be cleaned with fine carborundum stone or emery cloth. After cleaning, remove any grease or metallic dust with a petrol-moistened cloth.

Contact cleaning is facilitated by removing the lever to which the moving contact is attached. Remove the nut, insulating piece and electrical connections from the post to which the contact breaker spring is anchored. The contact breaker lever can then be lifted off the pivot post and the spring from the anchor post.

After cleaning and trimming the contacts, smear the pivot post with Rocol Molypad non-creep lubricant or with mobilgrease no. 2. Reassemble the contact breaker and check the setting as described under "After the first 500 miles."

Follow this procedure for both contact breakers.

3. DESIGN DATA

(a)	Firing Angles:	0°, 45°, 90° etc. ± 1°
	Closed Period:	34° ± 3°
	Open Period:	11° ± 3°
(b)	Contact breaker gaps:	0.014"—0.016"
(c)	Contact breaker spring tension, measured at contacts:	18—24 oz.
(d)	Capacitor:	0.18—0.23 mfd.
(e)	Automatic Timing Control:	Refer to Publication SB222, against the appropriate distributor Service No., for details of operating range, etc. of the centrifugal and vacuum timing control mechanisms.

4. SERVICING

(a) DISMANTLING

(*i*) Spring back the securing clips and remove the moulded distributor cap.

(*ii*) Lift the rotor arm from the top of the shaft.

(*iii*) Remove each pair of contacts, first withdrawing the moving levers as described in para. 2 (b) (ii). The fixedcontact plates can be withdrawn following removal of the securing screws.

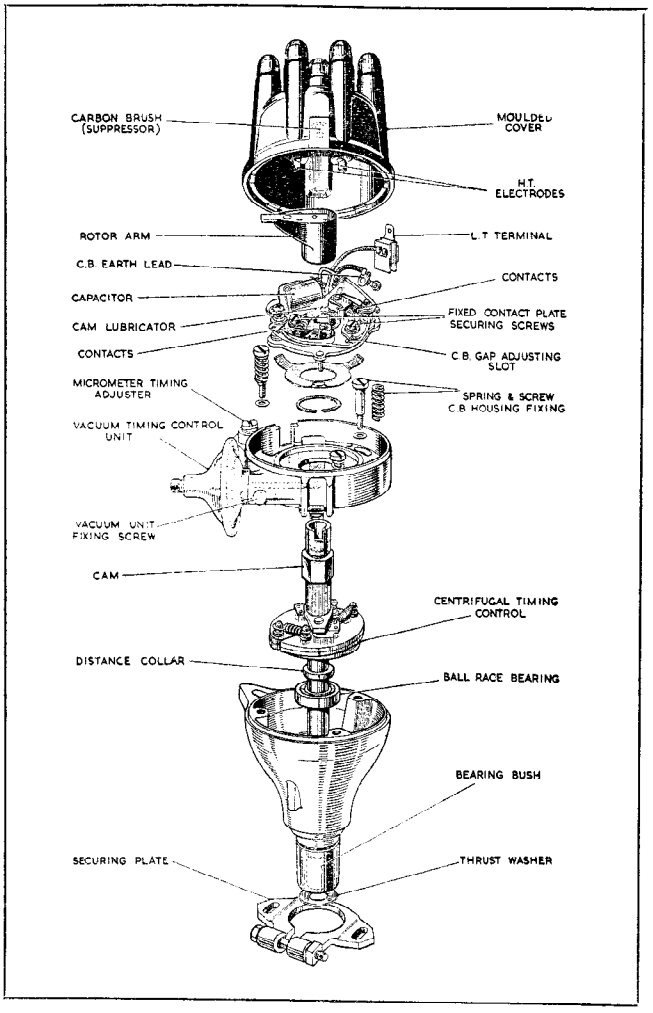
(*iv*) Unscrew the capacitor terminal nut and securing screw together with the shakeproof washers.

(*v*) Remove the three spring-loaded screws—the upper portion of the distributor body can now be withdrawn exposing the centrifugal advance mechanism.

(*vi*) Spring off the circlip (located at the underside of the contact breaker housing) to remove the star washer. The contact breaker base plate assembly can now be withdrawn. If necessary, the vacuum diaphragm unit can be separated from the distributor body by removing the single fixing screw.

(*vii*) Remove the cam spindle screw and withdraw the cam and cam foot. The weights, springs and toggles of the centrifugal advance mechanism can now be lifted off the action plate. To ensure correct reassembly, take care to note the position in which the individual parts of this mechanism are fitted in relation to each other.

(*viii*) Remove the driving dog from the shaft and press out the shaft from the distributor body. Do not lose the distance collar located below the action plate.



Distributor, dismantled.

(*ix*) Withdraw the ball bearing at the top of the shaft housing using a claw-type extractor. The neoprene oil seal located immediately below the bearing should be replaced at the same time.

(b) REASSEMBLY

The following instructions assume that complete dismantling has been undertaken.

(*i*) Reassemble the automatic timing control, seeing that the springs are not damaged.

(*ii*) Refit the cam spindle screw.

(*iii*) Place the distance collar over the shaft, smear the shaft with Rocol Molypad non-creep lubricant or clean engine oil and fit it into its bearing.

(*iv*) Refit the vacuum unit to the distributor body. Before reassembling the contact breaker base assembly to the upper portion of the distributor body, lightly smear the bearing surfaces with Rocol Molypad non-creep lubricant or Mobilgrease No. 2. Make certain that the vacuum advance peg engages correctly with the vacuum unit spring link.

(*v*) Secure the contact breaker base plate by means of the star spring washer and circlip.

(*vi*) Refit the base plate earthing screw.

(*vii*) Engage the eccentric manual timing adjuster with the slot in the lower part of the distributor body and bring the upper and lower portions together. Secure with the three spring-loaded screws.

(*viii*) Refit the contact breakers and capacitor.

(*ix*) Finally, when facilities exist, it is advisable to check the automatic advance mechanisms to ensure that the performance curves lie within the prescribed limits.